

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): An ink set comprising:

at least two kinds of inks, each of the at least two kinds of inks comprising triethyleneglycol and having a common hue and different densities, and containing an aqueous medium and a dye,

wherein each of the at least two kinds of inks has a corresponding discoloration velocity constant (k) for an image printed with each one of the at least two kinds of inks, ~~and~~

a ratio defined by a minimum value (k_{\min}) selected from among said corresponding constants divided by a maximum value (k_{\max}) selected from among the corresponding constants, is within a range of 0.7 to 1.0,

and in inks having the same hue, the content of a specific water-soluble organic solvent in the ink having a low concentration of dye is less than the content of the specific water-soluble organic solvent in the ink having a high concentration of dye.
2. (original): The ink set as claimed in claim 1, wherein each of the inks having a common hue and different densities includes at least one kind of dye having an oxidation potential nobler than 1.0 V (Vs SCE).

3. (original): The ink set as claimed in claim 1, wherein the dye is at least one of an azo dye and a phthalocyanine dye each having a heterocyclic group.

4. (original): The ink set as claimed in claim 1, wherein the aqueous medium contains at least a water-soluble glycol derivative.

5. (original): The ink set as claimed in claim 1 is an ink set for ink jet recording.

6. (original): An ink jet recording method of performing image-recording by an ink jet printer with the ink set as claimed in claim 1.

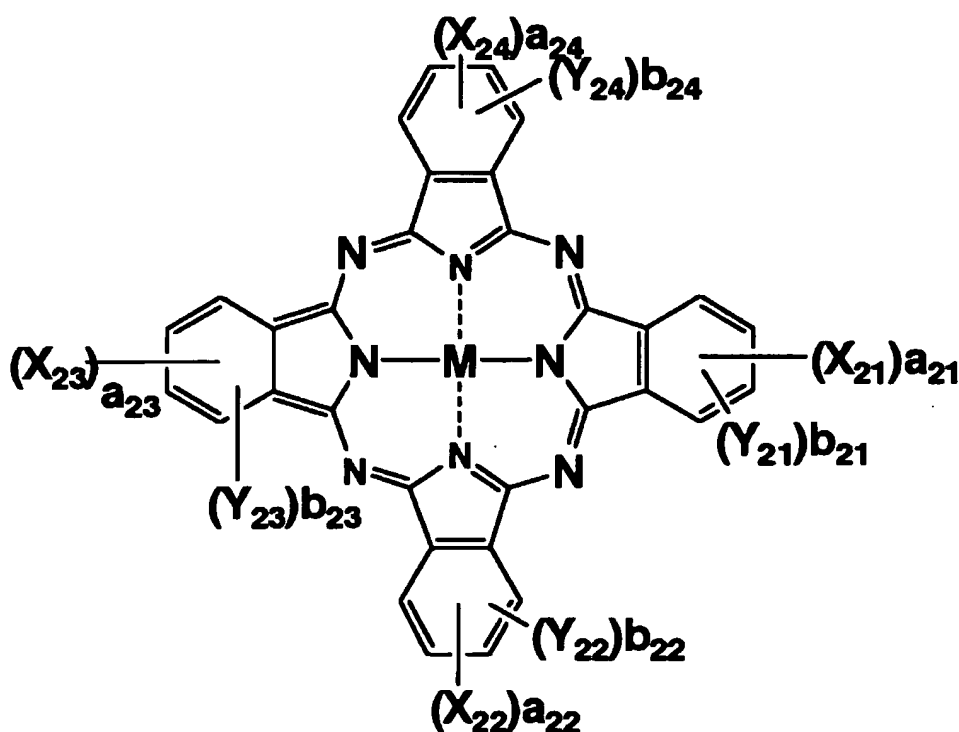
7. (new): The ink set as claimed in claim 1, wherein the specific water-soluble organic solvent is a water-soluble glycol derivative organic solvent.

8. (new): The ink set as claimed in claim 1, wherein the dye is selected from the group consisting of dyes represented by formula (1), formula (2), formula (3) and formula (4):



wherein A and B each represents a heterocyclic group which may be substituted; L represents a hydrogen atom, a single bond, or a divalent linking group; and n represents 1 or 2, provided that when n represents 1, L represents a hydrogen atom, and A and B both represent a monovalent heterocyclic group; and when n represents 2, L represents a single bond or a divalent

linking group, and either A or B represents a monovalent heterocyclic group and the other represents a divalent heterocyclic group; and further provided that when n represents 2, the two A groups may be the same or different and the two B groups may also be the same or different;



(2)

wherein X_{21} , X_{22} , X_{23} and X_{24} each represents $-\text{SO}-Z_2$, $-\text{SO}_2-Z_2$, $-\text{SO}_2\text{NR}_{21}\text{R}_{22}$, a sulfo group, $-\text{CONR}_{21}\text{R}_{22}$ or $-\text{COOR}_{21}$;

Z_2 represents a substituted or unsubstituted alkyl group, a substituted or unsubstituted cycloalkyl group, a substituted or unsubstituted alkenyl group, a substituted or unsubstituted

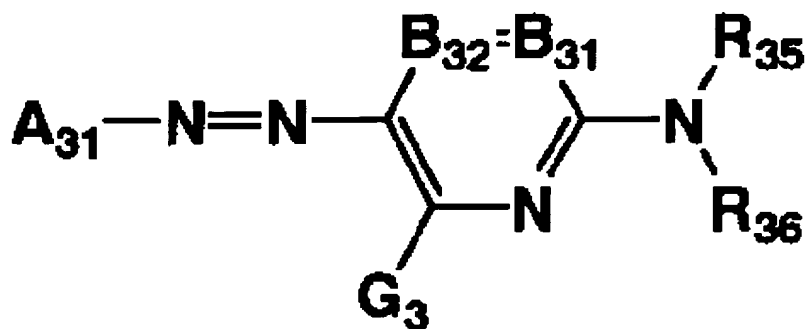
aralkyl group, a substituted or unsubstituted aryl group, or a substituted or unsubstituted heterocyclic group;

R_{21} and R_{22} each represents a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted cycloalkyl group, a substituted or unsubstituted alkenyl group, a substituted or unsubstituted aralkyl group, a substituted or unsubstituted aryl group, or a substituted or unsubstituted heterocyclic group;

Y_{21} , Y_{22} , Y_{23} and Y_{24} each represents a monovalent substituent;

a_{21} to a_{24} , and b_{21} to b_{24} respectively represent the number of the substituents of X_{21} to X_{24} and Y_{21} to Y_{24} ; a_{21} to a_{24} each represents a number of from 0 to 4, provided that a_{21} to a_{24} do not represent 0 at the same time; b_{21} to b_{24} each represents a number of from 0 to 4; when a_{21} to a_{24} and b_{21} to b_{24} represent a number of 2 or higher, a plurality of X_{21} to X_{24} and Y_{21} to Y_{24} may be the same or different;

and M represents a hydrogen atom, a metal atom, oxide or hydroxide of the metal atom, or halide;



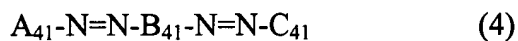
(3)

wherein A_{31} represents a residue of 5-membered heterocyclic diazo component $A_{31}-N_2$;

B_{31} and B_{32} each represents $=CR_{31}-$ or $-CR_{32}=$, or either B_{31} or B_{32} represents a nitrogen atom and the other represents $=CR_{31}-$ or $-CR_{32}=$; R_{35} and R_{36} each represents a hydrogen atom, an aliphatic group, an aromatic group, a heterocyclic group, an acyl group, an alkoxycarbonyl group, an aryloxy carbonyl group, a carbamoyl group, an alkyl- or arylsulfonyl group, or a sulfamoyl group, and each group may further have a substituent;

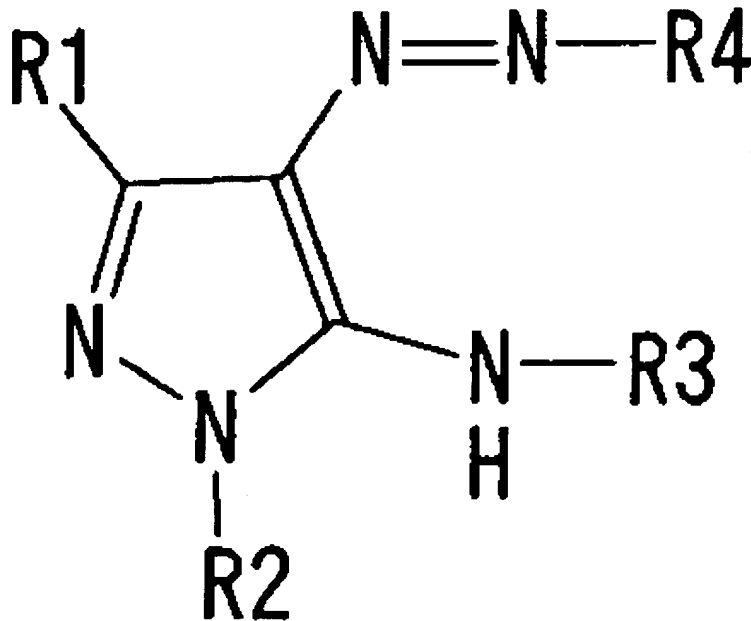
G_3 , R_{31} and R_{32} each represents a hydrogen atom, a halogen atom, an aliphatic group, an aromatic group, a heterocyclic group, a cyano group, a carboxyl group, a carbamoyl group, an alkoxycarbonyl group, an aryloxy carbonyl group, a heterocyclic oxycarbonyl group, an acyl group, a hydroxyl group, an alkoxyl group, an aryloxy group, a heterocyclic oxy group, a silyloxy group, an acyloxy group, a carbamoyloxy group, an alkoxycarbonyloxy group, an aryloxy carbonyloxy group, an amino group (including an arylamino group and a heterocyclic amino group), an acylamino group, a ureido group, a sulfamoyl-amino group, an alkoxycarbonylamino group, an aryloxy carbonylamino group, an alkyl- or arylsulfonylamino group, a heterocyclic sulfonylamino group, a nitro group, an alkyl- or arylthio group, an alkyl- or arylsulfonyl group, a heterocyclic sulfonyl group, an alkyl- or arylsulfinyl group, a heterocyclic sulfinyl group, a sulfamoyl group, a sulfo group, or a heterocyclic thio group, and each group may further be substituted; and

R_{31} and R_{35} , or R_{35} and R_{36} may be bonded to each other to form a 5- or 6-membered ring;



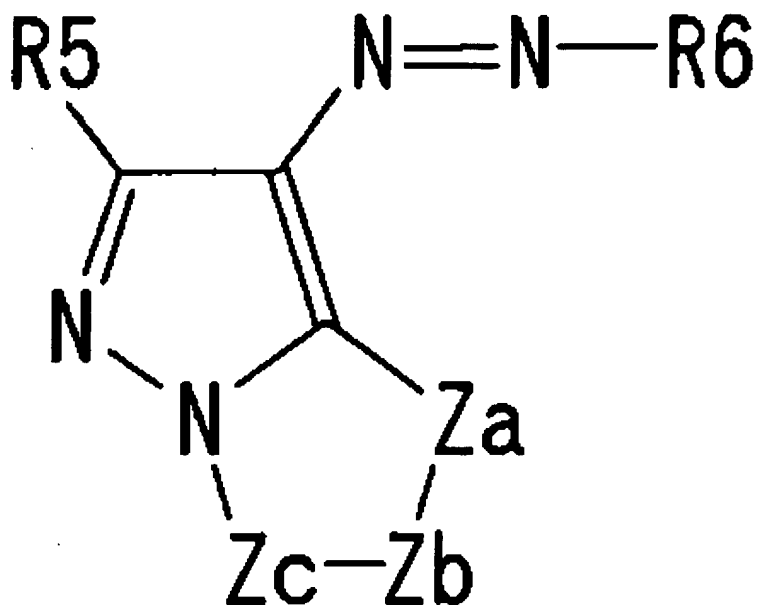
wherein A_{41} , B_{41} and C_{41} each represents an aromatic group which may be substituted or a heterocyclic group which may be substituted.

9. (new): The ink set as claimed in claim 8, wherein the dye of formula (1) is selected from the group consisting of dyes represented by formulae (1-A), (1-B) and (1-C), the dye of formula (2) is represented by formula (5), the dye of formula (3) is represented by formula (3-A), and the dye of formula (4) is limited to formula (4-A) or (4-B):

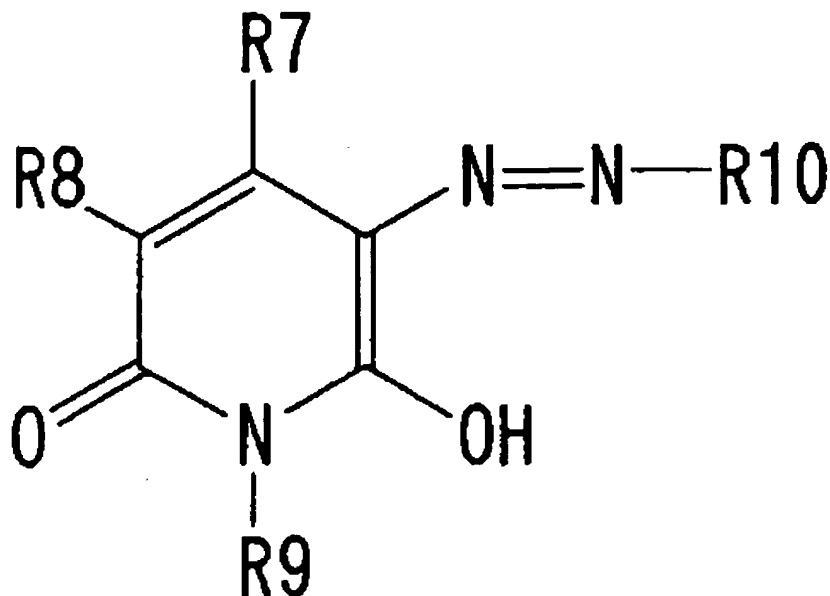


(1-A)

wherein R1 and R3 each represents a hydrogen atom, a cyano group, an alkyl group, a cycloalkyl group, an aralkyl group, an alkoxyl group, an alkylthio group, an arylthio group, an

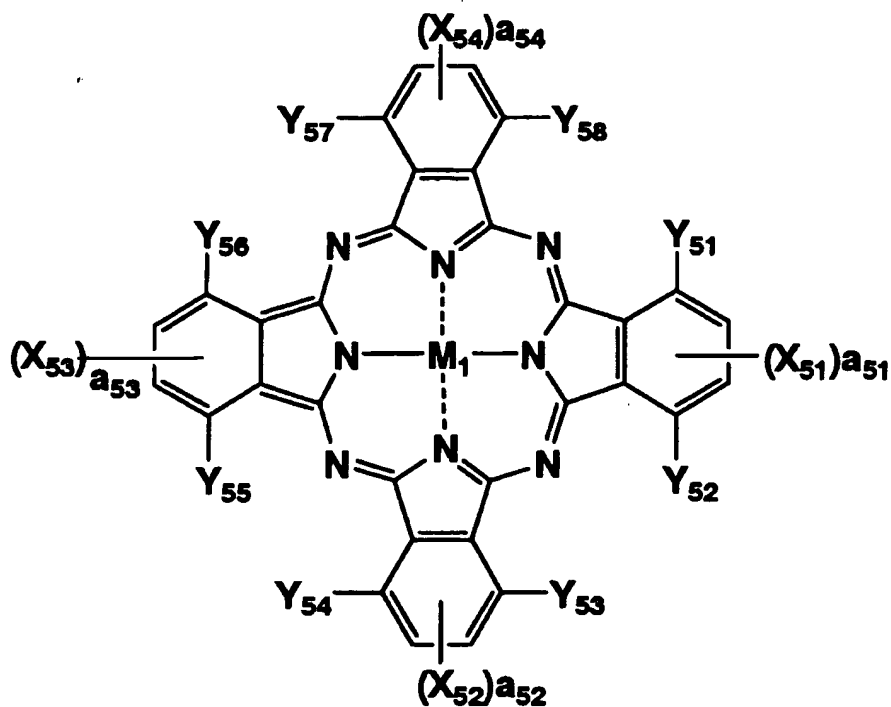


wherein R5 represents a hydrogen atom, a cyano group, an alkyl group, a cycloalkyl group, an aralkyl group, an alkoxyl group, an alkylthio group, an arylthio group, an aryl group or an ionic hydrophilic group; Z_a represents -N=, -NH- or -C(R₁₁)=; Z_b and Z_c each represents -N= or -C(R₁₁)=; R₁₁ represents a hydrogen atom or a nonmetallic substituent; and R₆ represents a heterocyclic group;



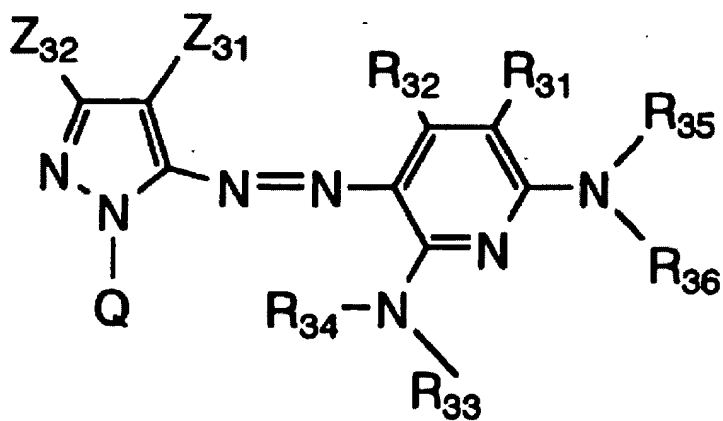
(1-C)

wherein R7 and R9 each represents a hydrogen atom, a cyano group, an alkyl group, a cycloalkyl group, an aralkyl group, an aryl group, an alkylthio group, an arylthio group, an alkoxycarbonyl group, a carbamoyl group or an ionic hydrophilic group; R8 represents a hydrogen atom, a halogen atom, an alkyl group, an alkoxyl group, an aryl group, an aryloxy group, a cyano group, an acylamino group, a sulfonyl-amino group, an alkoxycarbonylamino group, a ureido group, an alkylthio group, an arylthio group, an alkoxycarbonyl group, a carbamoyl group, a sulfamoyl group, a sulfonyl group, an acyl group, an alkylamino group, an arylamino group, a hydroxyl group or an ionic hydrophilic group; and R10 represents a heterocyclic group;



(5)

wherein, X_{51} to X_{54} , Y_{51} to Y_{58} and M_1 have the same meaning as X_{21} to X_{24} , Y_{21} to Y_{24} and M in formula (2) in claim 8, respectively; a_{51} to a_{54} each represents an integer of 1 or 2;

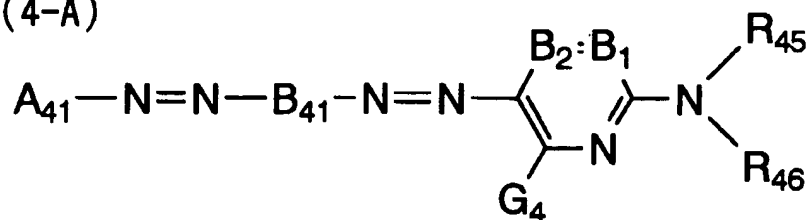


(3-A)

wherein R_{31} , R_{32} , R_{35} and R_{36} have the same meaning as in formula (3) in claim 8, respectively; R_{33} and R_{34} each represents a hydrogen atom or a substituent; Z_{31} represents an

electron attractive group having a σ_p value of Hammett's substitution constant of 0.20 or more;
 Z_{32} represents a hydrogen atom or a substituent; and Q represents a hydrogen atom or a substituent;

Formula (4-A)



wherein A_{41} and B_{41} have the same meaning as in formula (4) in claim 8, respectively; B_1 and B_2 each represents $=CR_{41}-$ or $-CR_{42}=$, or either B_1 or B_2 represents a nitrogen atom and the other represents $=CR_{41}-$ or $-CR_{42}=$;

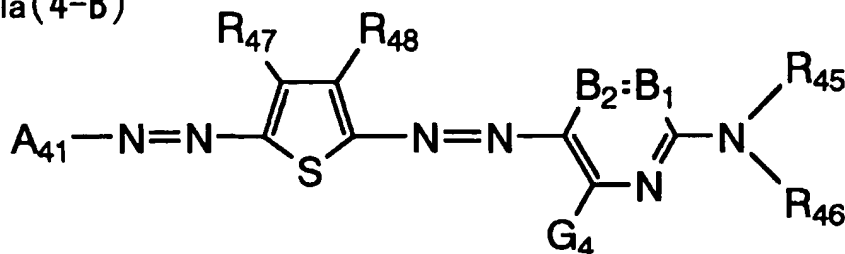
G_4 , R_{41} and R_{42} each represents a hydrogen atom, a halogen atom, an aliphatic group, an aromatic group, a heterocyclic group, a cyano group, a carboxyl group, a carbamoyl group, an alkoxycarbonyl group, an aryloxycarbonyl group, a heterocyclic oxycarbonyl group, an acyl group, a hydroxyl group, an alkoxyl group, an aryloxy group, a heterocyclic oxy group, a silyloxy group, an acyloxy group, a carbamoyloxy group, an alkoxycarbonyloxy group, an aryloxycarbonyloxy group, an amino group (including an alkylamino group, an arylamino group and a heterocyclic amino group), an acylamino group, a ureido group, a sulfamoylamino group, an alkoxycarbonylamino group, an aryloxycarbonylamino group, an alkylsulfonylamino group, an arylsulfonylamino group, a heterocyclic sulfonylamino group, a nitro group, an alkylthio group, an arylthio group, a heterocyclic thio group, an alkylsulfonyl group, an aryl-sulfonyl group, a heterocyclic sulfonyl group, an alkyl-sulfinyl group, an arylsulfinyl group, a

heterocyclic sulfinyl group, a sulfamoyl group, or a sulfo group, and each group may further be substituted;

R₄₅ and R₄₆ each represents a hydrogen atom, an aliphatic group, an aromatic group, a heterocyclic group, an acyl group, an alkoxycarbonyl group, an aryloxy carbonyl group, a carbamoyl group, an alkylsulfonyl group, an arylsulfonyl group, or a sulfamoyl group, and each group may further have a substituent; provided however that R₄₅ and R₄₆ do not represent a hydrogen atom at the same time; and

R₄₁ and R₄₅, or R₄₅ and R₄₆ may be bonded to each other to form a 5- or 6-membered ring;

Formula (4-B)



wherein A₄₁ has the same meaning as A₄₁ in formula (4) in claim 8; B₁, B₂, G₄, R₄₅ and R₄₆ have the same meaning as B₁, B₂, G₄, R₄₅ and R₄₆ in formula (4-A), respectively; and R₄₇ and R₄₈ have the same meaning as R₄₁ in formula (4-A).